



INSTA-CHECK

This application is part of provisional applications 60/453,873, 60/459,694 and 60/531,734 And shall be included

Field of the Invention

This invention pertains to a manual and radio frequency tire gauge that will remain on the valve stem or the tire of your vehicle at all times to monitor your air tire pressure .The radio frequency gauge will be monitored from inside and outside the vehicle and is able to be let on valve stem when inserting air. The manual tire gauge will only monitor at the tires valve stem.

Summary of the invention

This invention pertains to a tire gauge that is placed on your valve stem and remains there at all times. The invention called (INSTA-CHECK) can be monitored inside or outside your vehicle this device can also be removed if needed.

Brief Description of the Drawings

Figure 1A is a top view of the cross section of figure 1B, Figure 2 and figure 3.

Figure 1B is a vertical cross section of the manual gauge showing the embodiment of the invention.

Figure 1C is the bottom view of the cross section of figure 1B.

Figure 1D is a vertical cross sectional view of the top cap that fits on the top of Figures 1B, 2 and 3.

Figure 2 is a vertical cross section of the total embodiment similar to Figure 1B except for item 17 threaded valve stem slide.

Figure 3 is a vertical cross section of the total embodiment similar to Figure 2

except for item 2 air pressure spring has been added.

Figure 4A is a top view of Figure 4B

Figure 4B is a vertical cross section of a screw on adaptor used with Figure 1B as one embodiment.

Figure 5 is a vertical cross sectional view of a manual tire pressure monitoring device with a built in electronic gauge to show present tire pressure. Figure 5 also shows a top screw down cap with battery reservoir.

Figure 5A is a top view of figure 5 with a grooved top surface.

Figure 6 is a vertical cross sectional view of a valve stem extender that screw onto existing valve stems and is used with 1B, 1D and Figure 5.

Figure 7A is a cross sectional view of a tire pressure monitoring device that will screw onto valve stem threads and can be monitored by pressure and heat through a radio signal device sent to a main receiver located within the vehicle.

Figure 7B is a top view of Figure 7A

Figure 7C is a horizontal cross sectional view of Figure 7A as a one embodiment.

Description of Preferred Embodiment

Fig. 1 is a manual tire pressure monitoring gauge that you fit on your valve stem.

Fig. 1 Requires Fig. 4 Screw on nipple receiver Adapter by screwing Fig. 4 onto your tire valve stem and Fig. 4 will not be required if the bottom of Fig. 1 is replaced with conventional threading that allows Fig. 1 to be screwed directly to your tire valve stem.

Fig. 1 has a Gauge stick that when pushed towards valve stem by item 5, the stair step rim will cause item 4, air pressure stick to pop outward and show actual tire pressure.

Ref. # 4 will show pressure of tire up to 10 pounds over or under the line indicator or marks showing how much pressure is in the tire per ref. # 4, air pressure stick.

This FIG. #1 stays on your valve stem at all times or until air pressure is needed and can easily be removed and put back on the valve stem to recheck air tire pressure as many times as needed.

FIG.#1 ref. # 9, Insert spring is used at half compressed tension all the time when
5 staying on the air valve stem.

Item 10, FIG.#1 is the inverted nipple receiver per Ref. # 10 that pushes down over
FIG. #4 when FIG. # 4, screw on nipple receiver is in place.

When ref. 9, Insert spring is fully compressed to ref. 8, pressure valve air is released
into ref. 6, main air chamber by compressing ref. # 7, tension spring and internal
10 air pushes ref. # 4, air pressure stick outward.

Ref. # 4 also has 2, air pressure spring that monitors pressure outward.

Ref. #2 air pressure spring is designed and engineered for proper tire pressure.

FIG. #1 CALLED INSTA-CHECK CAP is a cap designed to go on top FIG. #1
manual tire pressure gauge called INSTA-CHECK.

15 FIG.#1A has ref. #9, insert spring that when installed on FIG.#1 will stay in place
by ref. # 10 inverted nipple receiver connected to ref. #1, nipple receiver of FIG.#1
until removed for quick and easy removal.

FIG. #2 a manual tire pressure monitoring gauge is similar to figure #1 except that
FIG. #2 screws on the valve stem per ref. #17, treaded invert.

20 FIG. #2 will slide up and in REF. # 10. Inverted nipple area with ref. #17, treaded
Invert having ref. #1 nipple receivers on one or both sides made with to it to slide
up and down.

FIG. #2, is a manual tire pressure monitoring gauge; ref. #17, treaded Invert has
ref. # 7, tension spring placed behind it to hold it back from ref. #17 from hitting
25 ref. #8, pressure valve until FIG. #2 is pushed down toward valve stem that will
compress ref. #7, tension spring and will decompress the spring when released.

5

FIG. #2, manual tire pressure monitoring gauge in reference to ref. #16 inverted nipple receiver chamber will hold down item#7 tension spring until it is released manually.

FIG.#3 a manual tire pressure monitoring gauge is exactly the same as FIG.#2 a
10 manual tire pressure monitoring gauge except ref. #2 air pressure spring has been added and a top threaded head has been placed on figure#3 which means two engineered air pressure springs are placed within figure #3.

The additional spring attaches to the backside of ref. #8 pressure valve. Then attaches to the bottom side of ref. # 4 air pressure stick.

15 FIG. #4 is a screw on nipple receiver that screws on existing on new valve stems to be used with FIG. #1 and fig. #5.

FIG. #5 is Radio Frequency Tire Pressure Monitoring System that can be controlled by radio frequency per ref. #19, digital control box and controls ref. #38 heat and pressure sensor.

20 FIG. #5 Radio Frequency Tire Pressure Monitoring System has a square screw a cap ref. #25 along with ref. #23 easy changing round battery.

FIG. #5 Radio Frequency Tire Pressure Monitoring System has a display screen ref. #20, for showing pressure and temperature of tire at the unit as well as inside the vehicle.

25 FIG#5 can also be done manually without radio frequency involved if ref. #20 Display screen is remaining.

FIG. #5 Radio frequency Tire Pressure Monitoring System Has a Item#9 insert spring and item#10 inverted nipple receiver to be used with FIG. #4 screw on nipple receiver.

5

FIG. #5 radio frequency tire pressure monitoring systems per Ref. #9 and #10 can also be replaced with ref. #17 as a treaded invert that will screw directly to the valve stem.

FIG. #6 Valve Stem Adapter can be used to extend your valve stem to receive

10 FIG. #1A INSTA-CHECK CAP.

FIG. #6 will screw onto the valve stem and stay there and the insta-check cap can quickly be removed on or off conditions as well as figures #1 and #5 can be used on this adapter.

FIG. #7 will be monitored by radio wave requency sent from ref. #34 and
15 heat/pressure sensor ref. #38 to a receiver located inside your vehicle and monitored within the vehicles dashboard that any consumer can purchase.

FIG. #7 may be purchased separately from the receiver unit that each FIG. #7 to be programmed to work within all vehicles that obtain the receiver unit.

FIG. #7 the size and length of the figure would be determined by air pressure
20 requirements.

FIG. #7 stays on your tire at all times and is fed air from the exposed top end until desired pressure is met without having to remove fig. #7 from the valve stem.

Per FIG.#7,Air is then dispursed down the shaft into ref.#39 four dividing air chambers that the air reaches to ref.# 38 heat/pressure sensor and dispersed through
25 the valve stem into the tire.

Reference#20 digital display screen will show air pressure within tire after you have completed termination of air supply.

Ref. #20 is not required for FIG. #7 and can be omitted if desired.

FIG. #7 an alarm can be placed within the receiver to let you know when you meet the desired pressure by beeping sounds.

FIG. #7 can be designed to have solar panels within ref. #47 hollow cavity.

- 5 FIG. #7 a round battery to be placed within lid cover and snaps into grooves of ref. # 42 which makes contact with ref.#41 battery connector then is then sent from ref. #42 to ref. #34 radio control chip then to ref.#20 a digital display board.

- Ref. #41,42,34 and 20 are connected through ref. #35 a round wire connector chase then signaled to ref. # 38 a heat/pressure sensor to Ref.#34 then sends a
10 signal to the receiver located within the vehicle.

The body frame of all figures listed ref.#14,27,32 and 37 can be made of plastic or aluminum or lightweight base metal's and the insides of all objects ref.# 2,7,8,and #9can be made of can be made of copper or aluminum or lightweight base metal's.

Index of Reference Numbers

- 15 1. Nipple Receiver.
2. Air Pressure Spring.
3. Non Pressure Air Cavity.
4. Air Pressure Stick.
5. Stair Step Rim (Finger Grip)
20 6. Main Air Pressure Chamber.
7. Tension Spring (Main Pressure valve)
8. Pressure valve.
9. Insert Spring
10. Inverted Nipple Receiver.
25 11. Open End Of Valve Stem.
12. Cover Cap
14. Main Body Pressure Gauge Checker

- 15. Finger Grip Area (Recessed)
- 16. Inverted Nipple Receiver Chamber
- 17. Threaded Valve Stem
- 18. Access Area to Receive Air Pressure Reading to Digital Control Box
- 5 19. Digital Control Box
- 20. Digital Monitor Screen
- 21. Protective Clear Plastic Cover
- 22. Metal Battery Connector
- 23. Battery.
- 10 24. Threaded Receiver
- 25. Threaded Body Cap
- 26. Top of Cap with Non Slip Surface
- 27. Body of Figure 5
- 28. Body of Figure 4
- 15 29. Adhered rubber for gripping of threads
- 31. Threaded Receiver
- 32. Body of Figure 6
- 33. Threaded Nipple Receiver
- 34. Radio Control Chip
- 20 35. Wire Chase Connector
- 36. Protective Plastic Cover
- 37. Body Frame of Figure 7
- 38. Heat/ Pressure Sensor
- 39. Four Way Air Pressure Divider Chamber
- 25 40. Cradle Battery Holder
- 41. Metal Battery Connector.

42. Edge Slide Slots

43. Stop Lip Edge for battery

44. Embossed Finger Grip Surface

5 45. Battery Cover

47. Hollow Cavities. (Future solar panel storage area)

10

15

20

25